Nortel Symposium

Desktop TAPI Service Provider 1.6

Implementation Planning Guide

Planning Guide for Implementing
Windows TAPI Compliant Applications that use
the Nortel Symposium TAPI Service Provider 1.6

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About this Guide

TAPI compliant applications, such as Nortel Symposium Call Manager, FastCall, and FastView, are easy to implement if the telephone system is properly equipped and configured to support the unique features of the application and the Nortel Symposium Desktop TAPI Service Provider.

This guide provides information about the requirements of the Meridian 1, MSL-100, and DMS-100 telephone systems that should be reviewed and planned for before deployment of TAPI applications and the Nortel Symposium Desktop TAPI Service Provider. Information in this document is intended for use by telephony server administrators and who are responsible for installing, configuring, maintaining and using Nortel's TAPI SP and for developers

This document is written based upon the assumption that you have some experience working with computers, TAPI, telephony products, and Microsoft Windows. The Nortel Symposium Desktop TAPI Service Provider 1.6 is referred to as Nortel's Desktop TAPI SP in this guide.

This guide is divided into the following chapters and appendices:

Chapter 1, "Overview," provides an overview of TAPI, of Nortel Symposium Desktop TAPI Service Provider 1.6, the Implementation Planning Process, and the Computer Requirements. In addition, summaries of the online documents and the Adobe Acrobat Reader are provided.

Chapter 2, "Meridian 1 Implementation," contains the requirements for the telephone and telephony (switch). This chapter also contains information on CLID, ANI, IANI, and DNIS for Nortel Symposium Desktop TAPI Service Provider implementation.

Chapter 3, "DMS Implementation," provides requirements for the telephone, telephony (switch), connectivity, hardware and software for DMS implementation.

Appendix A provides additional user information. This information includes how to receive technical support, summary of the online documents, and information on using the Adobe Acrobat Reader to view the online documentation. To view the online documents, the Adobe Acrobat Reader must be installed.

Appendix B identifies the features that the Nortel Symposium Desktop TAPI Service Provider supports.

In addition, this guide contains a Glossary that lists telephony services terms and definitions used in this document. A Table of Contents and Index provide assist you in locating the desired information.

For additional information or help using this guide, call the Nortel Developer Support Hotline at (800) NT-4CTI-0.

For information about other Northern Telecom products, call (800) 4-NORTEL (466-7835). Outside the United States and Canada, contact your Nortel Support or Sales representative.

Related Documents

Documents that you may need to reference, but are not necessarily required for configuring or using the TAPI SP include:

- Meridian TelAdaptor TCM Installation Guide - Available from Nortel, Publication # P0741589
- *VISIT Technical Reference Guide* - Available from Nortel, Publication #P0739491
- *MS-Windows User's Guide* - Available from Microsoft Corporation
- *MS-DOS User's Guide* - Available from Microsoft Corporation
- *Nortel Symposium Desktop TAPI Service Provider 1.6 User's Guide*- Available from the Nortel Web Site (www.nortel.com/bap/sales.htm).
- *Nortel Symposium Desktop TAPI Service Provider 1.6 Programmer's Guide* - Available from the Nortel Web Site (www.nortel.com/bap/sales.htm) with the Nortel Symposium Desktop TAPI SP Developer Tool Kit.
- *Getting Started with Nortel Symposium Communicator* - Available with Nortel Symposium Communicator product.
- *Getting Started with Nortel Symposium Multimedia Conferencing* - Available with the Nortel Symposium Multimedia Conferencing product.
- *Getting started with Nortel Symposium Call Manager* - Available with the Nortel Symposium Call Manager product.

Contents

About this Guide ..... **iv**
Related Documents ..... **v**

Chapter 1 Overview 9

Overview of TAPI **9**
Overview of the Nortel Symposium Desktop TAPI Service Provider Release 1.6 ..... **10**
TAPI Application Relationships **10**
Implementation Planning Process **10**
Call Presentation 11
CLID 11
ANI 11
IANI 12
DNIS 12
Computer Requirements **13**
Minimum Hardware Requirements 13
Minimum Software Requirements 13
Interface Devices 13
Cables 14

Chapter 2 Meridian 1 Implementation 15

Telephone Requirements **15**
Telephony (Switch) Requirements **15**
Basic Telephone Configuration Requirements 16
CLID **17**
Meridian 1 Option 21-81 (NTP 553-2901-100) 17
Meridian 1 Option 11 (NTP 553-3011-310) 19
ANI **21**
ANI signaling 21
ANI Trunk Requirements 21
Operating Parameters for ANI on DT1 22
IANI **22**
IANI Package Requirements 23
IANI Operating Parameters 23
IANI Feature interactions 23
DNIS **24**
Routing by DNIS number 24
Name Display for DNIS 24
DNIS Switch Configuration 24
DNIS Hardware Requirements 25
DNIS Software Requirements 25
DNIS Operating Parameters 25
Final Implementation Step **26**

Chapter 3 DMS Implementation 27

Telephone Requirements **27**
Telephony (Switch) Requirements **27**
Connectivity Devices **27**
Hardware and Software Requirements **28**
Packages to Support CCS7 Connectivity 28
Packages to Support ISDN PRI Connectivity 28
Packages to Support Non-ACD Agents 28
Packages to Support ACD Agents 29

Appendix A Additional User Information 31

Technical Support for the Nortel Symposium Desktop TAPI Service Provider 1.6 ..... **31**
Overview of the Nortel Symposium Desktop TAPI SP 1.6 Online Documentation **32**
Overview of the Adobe Acrobat Reader **33**
The Acrobat Reader Window 33
Using Bookmarks on the Acrobat Reader Window 33
Using Links on the Adobe Acrobat Window 35

Appendix B Supported Features 37

Features Supported on the Meridian 1/SL-1 ..... **37**
Features Supported on the MSL-100/DMS-100 ..... **37**

Glossary of Terms 39

Index 41

Table of Figures

Figure 1 TAPI Overview *9*
Figure 2 TAPI Application Relationships *10*
Figure 3 PRI Required Hardware *18*
Figure 4 Digit Display Format for Calling Line Identification *19*
Figure 5 Agent's Display Information *24*

List of Tables

Table 1 Packages for MBS Display *27*
Table 2 packages needed to support CCS7 connectivity *28*
Table 3 Packages needed to support ISDN PRI connectivity *28*
Table 4 Requirements for non-ACD Agents *29*
Table 5 Requirements for ACD Agents *29*
Table 6 Packages necessary for feature to operate *30*

Chapter 1 Overview

This chapter provides an overview of TAPI, of Nortel Symposium Desktop TAPI Service Provider 1.6, the Implementation Planning Process, and the Computer Requirements. In addition, summaries of the online documents and the Adobe Acrobat Reader are provided.

Overview of TAPI

The introduction of new computer telephony integration (CTI) standards allows businesses of all sizes to develop new applications integrating computers and telephone systems. Microsoft and Intel created the Telephony Application Programming Interface (TAPI). The Telephony technology integrates computers with the telephone network.

Nortel offers TAPI compliant applications as well as Service Providers. Service Providers (SP) are the software files needed to enable TAPI applications to communicate with the physical telephony device. Nortel offers TAPI SPs for Meridian 1, Norstar, SL-100, DMS Meridian Digital Centrex business systems.

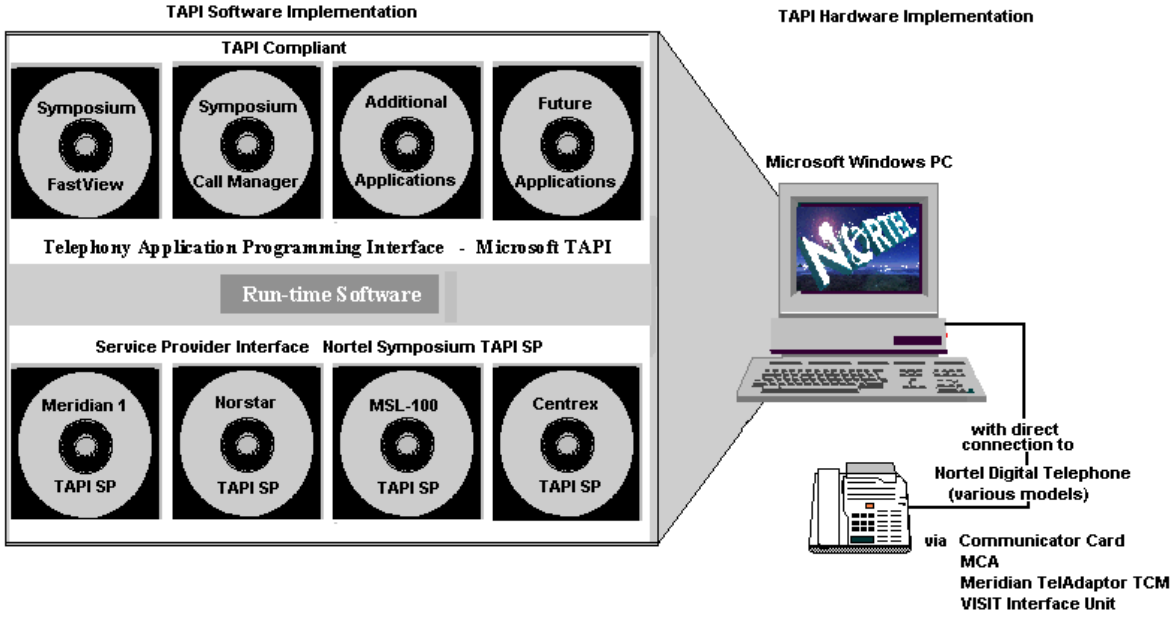


Figure 1 TAPI Overview

The Nortel Symposium Desktop TAPI service providers, available as standalone development kits, are capable of being included in a variety of applications. The Telephony Application Programming Interface (TAPI) gives developers a consistent set of tools for creating the windows-based telephony applications.

In addition, Nortel now offers the Nortel Symposium TAPI Service Provider software for Meridian 1 and the CompuCALL TAPI Driver for DMS/MSL-100 that runs on a Windows NT Server and supports a Telephony Application Programming Interface on a Windows client. For information on these products, contact Nortel's Product Information at (800) 4-Nortel.

Overview of the Nortel Symposium Desktop TAPI Service Provider Release 1.6

The Nortel Symposium Desktop Telephony Application Programming Interface (TAPI) Service Provider (SP) release 1.6 is also referred to as Nortel's Desktop TAPI SP in this document. Along with the standard features included in Version 1.0 and 1.5 of the TAPI Service Provider, Nortel's TAPI SP version 1.6 allows Nortel's Desktop TAPI SP to function on the DMS/MSL-100 with MCA and Nortel Symposium Communicator card interface devices.

The Nortel Symposium Desktop TAPI Service Provider 1.6 provides the TAPI Test tool and the TAPI Logger tool to help with troubleshooting. The TAPI Test Tool is provided to assist you in verifying that Nortel's Desktop TAPI SP is working after it is installed and configured. The Logger tool allows you to create a log file that provides information to assist technical personnel in troubleshooting problems. These tools are detailed in Chapter 4 of the online *Nortel Symposium TAPI Service Provider 1.6 User's Guide*.

TAPI Application Relationships

Figure 2 shows the relationship between Microsoft TAPI, Nortel TAPI SPs, and TAPI applications.

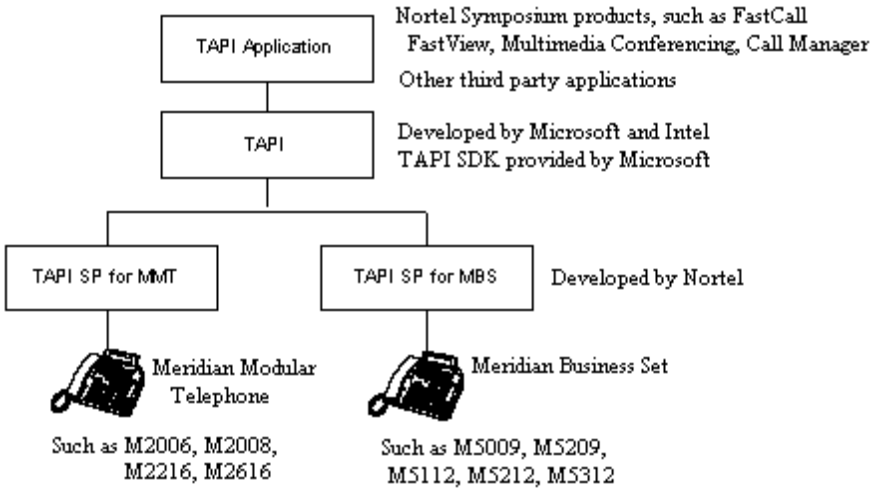


Figure 2 TAPI Application Relationships

Implementation Planning Process

The process of implementation planning starts by determining what you want to do and how your TAPI application will help you do it. You need to determine how the TAPI application can take advantage of the information presented to the set. Keep in mind that most applications that are compatible with Microsoft windows support the output of information to a printer and the input of data through a modem, scanner or mouse. This information exchange is usually handled or controlled by a special driver that typically manipulates the data in some way.

TAPI applications rely on the Nortel Symposium Desktop TAPI Service Provider to manipulate the exchange of information between the personal computer's COMM 1, 2, 3 or 4 port and a telephone using an interface device, such as a Meridian Communications Adapter (MCA), Nortel's Symposium Communicator card, or a VISIT Interface Unit (VIU).

Call Presentation

TAPI compliant applications usually support the ability to place calls, answer calls, hold and un-hold calls, transfer and conference calls, as well as other features. However, one of the most important functions of the TAPI Service Provider is to interpret the information that is presented to the telephone set and pass that information on to the TAPI compliant application through an interface device. This is called "Call Presentation."

Many TAPI compliant applications, such as Nortel Symposium FastCall and FastView, Nortel Symposium Multimedia Conferencing, and Nortel Symposium Call Manager, use the information to perform a particular function. This function may include call routing or screen pops. Refer to this guide for the various kinds of information that the Meridian 1 option 11-81 PBX or MSL-100/DMS-100 telephone systems can deliver to a telephone set. In addition, we recommend that you check with your telephone system administrator to determine which functions are available at your location.

CLID

Calling Line Identification (CLID) sends a telephone's designated number through the ISDN PRI network to the Digit Display on a receiving device. Both outgoing and incoming calls are supported. The CLID display lasts for the duration of the call. CLID display is supported over Meridian 1 to the following switches:

- Meridian 1 and SL-100
- DMS-100 and DMS-250
- Meridian 1 tandem through AT&T 4ESS and AT&T 5ESS

The Nortel's Desktop TAPI SP delivers CLID information received from the Interface device to the TAPI Application.

Note: CLID is an ISDN feature that supports delivery of the telephone number of the calling party to your set.

Your telephone system may also support an ISDN feature, called "Network Calling Party Name Display," that the TAPI SP passes on to TAPI compliant applications. TAPI compliant applications often use CLID to perform screen pops for example, query an external database field for a matching CLID.

ANI

Certain applications involve automatic message accounting. The telephone system must identify the parties involved in a call and automatically transmit this information. Automatic Number Identification (ANI) provides this capability. A system with ANI sends information about stations involved in an outgoing toll call via Multifrequency (MF) signaling over Central Automatic Message Accounting (CAMA) trunks to toll-switching CAMA, Traffic Operator Position System (TOPS), or Traffic Service Position System (TSPS) offices. The signaling method used to send this information to the Central Office can be E&M, DX, or loop signaling.

Note: ANI is sometimes confused with CLID, but it is not the same.

IANI

The In-Band ANI (IANI) feature (available on the M1 Option 11-81 only) provides the ability to display a ten-digit calling party number during setup (signaling) over a non-Integrated Services Digital Network (ISDN) T1 trunk. The Automatic Number Identification (ANI) digits display when they auto-terminate to an Automatic Call Distribution (ACD) Directory Number (DN) agent telephone with digit display. The IANI feature requires that ten (10) digits be received over the T1 trunks. IANI sends these digits to three places: the CDR records, the host, and the agent telephone. Dialed Number Identification Service (DNIS) can also be enabled on the trunks allowing 3-7 digits representing the called number to be delivered to the set. The TAPI Service Provider passes IANI and/or DNIS digits to the TAPI application.

DNIS

In telemarketing environments, Dialed Number Identification Services (DNIS) can reduce the time needed to serve a call. For example, the dialing plan can be configured so the DNIS digits can represent product lines or services. The ACD agent can then answer incoming calls with the correct response. DNIS is often used with the Incoming Digit Conversion (IDC) feature to support the above.

Note: The Meridian 1 option 11-81 PBX also supports DNIS Name Display, which associates a name with a DNIS number. The TAPI SP passes the DNIS number and DNIS name to the TAPI compliant application.

The Meridian 1 option 11-81 PBX, MSL-100/DMS-100 telephone systems may support CLID, IANI, and DNIS but this information must be delivered to the set for the TAPI SP to pass this information to the TAPI compliant application. Incoming calls routed through an IVR or Voice mail system may inhibit delivery of CLID or DNIS to the set (especially if front-ending the phone system).

Note: The PBX trunking facilities required to support ANI (Automatic Number Identification) are different from the trunks required to support CLID (Calling Line ID). The telephone company may offer a feature called ANI (which delivers the calling party's number to the M1 PBX) but the M1 PBX has to be ISDN Primary Rate Interface (PRI) equipped and have CLID enabled over the PRI trunks in order to receive the ANI information. Some people make the incorrect assumption that if the telephone company can deliver ANI to the M1 PBX, then the M1 PBX must be equipped with ANI. Customers asking for ANI may actually be asking for CLID and do not know it.

Meridian 1 also supports a feature called IANI (In-Band ANI) which delivers the calling number to ACD Agents over T-1 trunks only configured with DTMF signaling. Non-ACD sets can not receive IANI.

Check with your telephone system administrator to determine whether or not your TAPI application will take advantage of CLID, IANI, or DNIS. Continue with implementation planning by using the following checklist:

1. Verify that your PC supports the requirements of the TAPI application and the requirements of Nortel's TAPI SP 1.6. Refer to the "Computer Requirements" section located in this chapter.
2. If your telephone system is a Meridian 1 option 11-81 PBS, refer to Chapter 2 of this document for further guidelines on implementation.
3. If your telephone system is an MSL-100 or DMS-100, refer to Chapter 3 of this document for further guidelines on implementation.

Computer Requirements

Implementation of Nortel's Desktop TAPI Service Provider 1.6 requires the hardware and software listed below. Install the required hardware and software before installing the service provider software.

Note: Lower system speeds and lower memory capacities may adversely affect system performance.

Minimum Hardware Requirements

The minimum hardware requirements for the Nortel's Desktop TAPI SP include:

- 386/33 MHz PC
- 3.5" disk drive
- 8 MB of Ram recommended. Check the application requirement.
  Memory - the amount of memory needed by Nortel's Desktop TAPI SP to run depends on the interface device being used, according to the following list:

-TelAdaptor	236 KB
-MCA	196 KB
-MPDA	196 KB
-VIU	175 KB
- Communicator Card	200 KB

  Note: These values increase as the number of DNs and features assigned to the set increases, but are never more than 25%.
- The amount of free disk space that is needed for Nortel's Desktop TAPI SP depends upon the installation options you select: 3925 Kilobytes of free space is required for the complete installation of TAPI SP 1.6 software, Diagnostic Tools, and online documents; 1875 Kilobytes of free disk space is required for installing the TAPI SP 1.6 software and Diagnostic Tools; and 1757 Kilobytes is required for installing the TAPI SP 1.6 software. Additional free disk space is required for running TAPI applications. Refer to the appropriate TAPI application document for information regarding additional disk space needed for the application
- Mouse (optional, but strongly recommended for installation)
- COMM 1, 2, 3, or 4 available
- VGA or SVGA display

Minimum Software Requirements

The minimum software requirements for Nortel's Desktop TAPI SP include:

- MS-DOS 5.0 or later
- Microsoft Windows 3.1 or later, Windows for Workgroups, or Windows 95 (Windows NT is not supported with this release)

Interface Devices

- Meridian TelAdaptor TCM (NT5P41TA), Meridian Communications Adapter (MCA - NT2K65XJ), or Meridian Programmable Data Adapter (MPDA) for use on M1 options 11-81 with all cables and power supply (refer to the product's installation guide)

- VISIT Interface Unit (VIU for use on MSL-100 or DMS-100 switches with all cables and power supply), refer to the product's installation guide - NTFX12AA
- Nortel's Communicator card, refer to the documentation provided with Nortel's Communicator for detailed information

Cables

- Cables for MCA and MPDA:
    - Cable: PC serial/modem (DB-25/DB-25) Part # NT5P41AQ
    - Cable: PC serial/modem (DB-9/DB-25) Part # NT5P41AP
- Cables for TelAdaptor TCM:
    - Cable: PC serial/TelAdaptor (DB-25/Mini-DIN-8) Part # NT5P41AN
    - Cable: PC serial/TelAdaptor (DB-9/Mini-DIN-8) Part # NT5P41AM
- Cables for Nortel's Communicator card:
    - Cable: RJ11 Line cord Part # A0274382

Chapter 2 Meridian 1 Implementation

This chapter provides requirements for Telephone and Telephony (switch) and information on CLID, ANI, IANI, and DNIS for Meridian 1 implementation.

Telephone Requirements

The Nortel Symposium Desktop TAPI Service Provider 1.6 (Nortel's TAPI SP 1.6) supports the M2006, M2008, M2216 and M2616 Meridian Modular Telephones (MMT) equipped with a TelAdaptor (TCM), Meridian Programmable Data Adapter (MPDA) or Meridian Communications Adapter (MCA) interface device. The interface device serves as an interface between the MMT set and the TAPI application on a PC. When the PBX delivers the calling/called number to the set, the interface device picks up the information and passes it onto the PC's COMM 1, 2, 3, or 4 port to be handled by the TAPI application.

Telephony (Switch) Requirements

The PBX options needed to deliver the calling/called number to the telephone set is dependent upon whether the calls originated from within the switch or outside the PBX. Meridian Modular telephones display the calling/called number if the calling party's phone resides on the same PBX and is equipped with the following packages:

Option #19 = Automatic Digit Display (LD 11 CLS = ADD) available in X11 release 1

Option # 95 = Calling Party Name Display (LD 11 CLS = CNDA) available in X11 release 10

Option #95 = Dialed Name Display Allowed (LD 11 CLS = DNDA) available in X11 release 13

Connectivity device: (include phone programming information)

- MPDA
- MCA
- TelAdaptor
- Nortel's Communicator card

(These interface devices require either a DB-9/DB-25 or DB-25/DB-25 cable to connect telephone set to interface device)

Basic Telephone Configuration Requirements

Each Meridian Modular ACD and non-ACD set must be configured with the following:

- a three-party Conference Key (LD 11 - KEY = AO3) or a six-party conference key (LD 11 - KEY = AO6)
  (if the TAPI Application supports conference)
- a Display Key (LD 11 - KEY = DSP)
  (if you want the TAPI application to show CLID on secondary DNs before answering the call)
- a transfer key (LD 11 - KEY = TRN)
  (if the TAPI Application supports transfer)
- one or more DN keys (LD 11 - KEY 0 = SCR XXXX or SCN XXXX), etc.

If the TAPI application telephone set will be an ACD Agent set, one of the following ACD packages must be provisioned and configured in addition to the above options.

- Option #45 = ACD Package A
- Option #41 = ACD Package B
- Option 42 = ACD Package C1
- Option #50 = ACD Package D
- Option #170 = Meridian Modular Telephones
- Multiple Queue Assignment (M2A on X11 Rel 21 and above)

In addition to the keys and ACD packages mentioned above, each Meridian Modular ACD set must have an ACD queue configured using LD 23 with Call Forcing enabled as needed, and the set must be configured with the following:

- an ACD In-Calls Key (LD 11 - KEY = ACD xxxx yyyy)
- a Make Set Busy Key (LD 11 - KEY = MSB)
- a Not Ready Key (LD 11 - KEY = NRD)
- one or more DN keys (LD 11 - KEY 0 = SCR XXXX or SCN XXXX) for outbound dialing

Calls that originate from outside the telephone system do not automatically display the calling/called number on the set. Therefore, to receive a calling/called number from outside the switch and deliver the number to the set's display, the above packages are needed plus additional hardware and software packages are needed on the Meridian 1 Option 11-81 PBXs. Refer to the CLID section of this guide.

CLID

Calling Line Identification (CLID) sends a telephone's designated number through the ISDN PRI network to the Digit Display on a receiving device. Both outgoing and incoming calls are supported. The CLID display lasts for the duration of the call.

Northern Telecom offers essentially four options that people typically believe are needed to receive calling number information to a M1 Option 11-81 telephone set. However, only two options (CLID and IANI) exist.

CLID functionality on M1 Option 11 is similar to CLID on M1 Options 21-81. However, the hardware and software packaging for ISDN PRI and CLID on the M1 Option 11 are different.

The following sections on Meridian 1 Option 21-81 (NTP 553-2901-100) and Meridian 1 Option 11 (NTP 553-3011-310) provide additional details on ISDN PRI and CLID:

Meridian 1 Option 21-81 (NTP 553-2901-100)

Calling Line Identification (CLID) functionality on M1 Option 11 is similar to CLID on M1 Options 21-81. However, the hardware and software packaging for ISDN PRI and CLID on the M1 Option 11 are different.

Meridian 1 Option 21-81 Switch Configuration

CLID display is supported over Meridian 1 to the following switches:

- Meridian 1 and SL-100
- DMS-100 and DMS-250
- Meridian 1 tandem through AT&T 4ESS and AT&T 5ESS

Customers will typically have a T-1 (DTI) connection to the telephone company but may be lacking the D-Channel hardware and ISDN PRI and CLID software necessary to receive a Calling number from outside the M1 PBX. The following sections identify the ISDN PRI and CLID hardware and software requirements.

Meridian 1 Option 21-81 Software Requirements

The following packages are required to support CLID: Package 19, 75, 145, 146 or 147. X11 release 14 and later software supports CLID to another Meridian 1/SL-1, Meridian 1 Options 21-81, SL-100, DMS-100, DMS250. X11 release 16 and later software supports CLID to an AT&T 4ESS and 5ESS switch.

Meridian 1 Option 21-81 Hardware Requirements

The following hardware is required for ISDN PRI on M1 Options 21-81. Refer to Figure 3.

- QPC720B Primary Rate Interface card(s), and for 64K data transmission between Meridian 1 and DMS-100
- QPC757C, or NT6D11AB D-channel Interface (one per 16 PRIs)

  Or
- NT6D80AA Multi-purpose Serial Data Link (MSDL) supported on X11 release 18 and later
- QPC471 (vintage B or higher is recommended) or QPC775 Clock Controller (one per CPU)

- QPC471 vintage H or later is required for option 81 systems
- QPC414B Network Card (one loop per PRI)
- Channel Service Unit (CSU): USA regulations (FCC Part 68), require Network Channel Terminating Equipment (NCTE) at the demarcation point to registered common carrier trunks. Use Digilink, Verilink or similar CSUs (one per PRI).
- Echo Canceller: For voice calls over satellite transmission, use a Tellabs 24-Channel Echo Canceller or the equivalent.

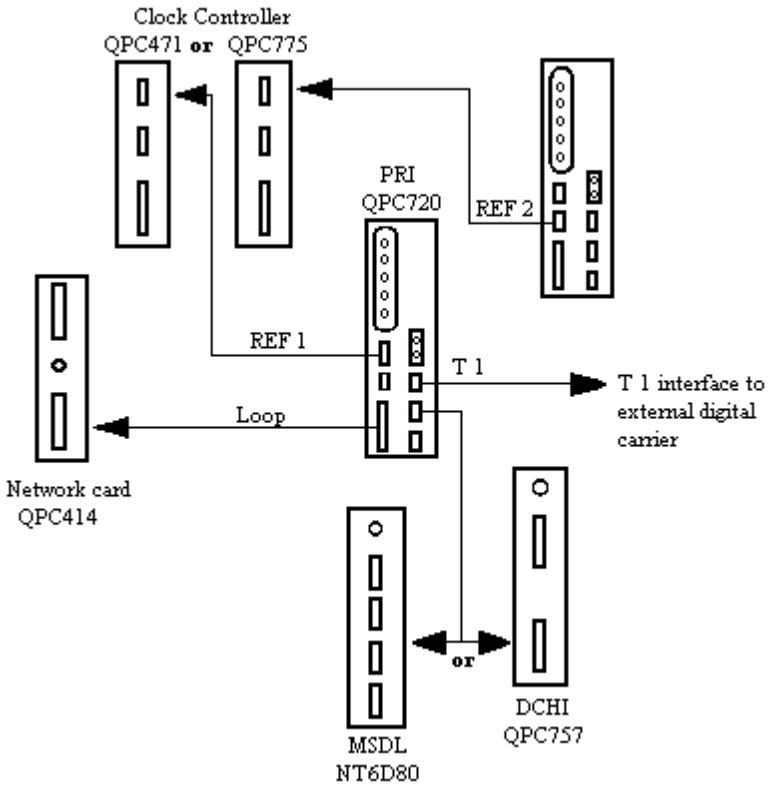


Figure 3 PRI Required Hardware

Note 1: For PRI, the QPC720B, QPC757C (or NT6D80), and QPC471 (or QPC775) cards are all required. For every destination, an independent D-channel is also needed, one for every 16 PRIs to the same destination. QPC720C is introduced in X11 release 17. It is required for high speed data calls (56K) between a Meridian 1 with a QPC472 using DTI to a DMS-100 using PRI to a Meridian 1 with a QPC720.

Note 2: The QPC471 and QPC775 Clock Controller cards cannot be intermixed in one system.

Note 3: For every destination, an individual D-channel is required. CLID passes across this D-Channel and can be delivered to the user's telephone set.

Meridian 1 Option 21-81 Operating Parameters

The following are CLID operating parameters for Meridian 1 Options 21-81:

- If the CLID display is unavailable because the call was not routed on ISDN routes for the entire call, the trunk route access code and trunk route member number are displayed.
- For public networks, CLID displays the standard North American Numbering Plan 7 or 10-digit number, depending on the number dialed.
- For a private network over ESN, the CLID displays an H followed by an HLOC (Home Location Code) + xxxx, where xxxx = four-digit DN.
- For a private network over CDP, the CLID displays the LSC (Local Steering Code) followed by either:
  - the extension's trailing digits (forming the CDP DN) when CDP is equipped, or
  - the calling telephone's extension. See Figure 4 for digit display formats for CLID.

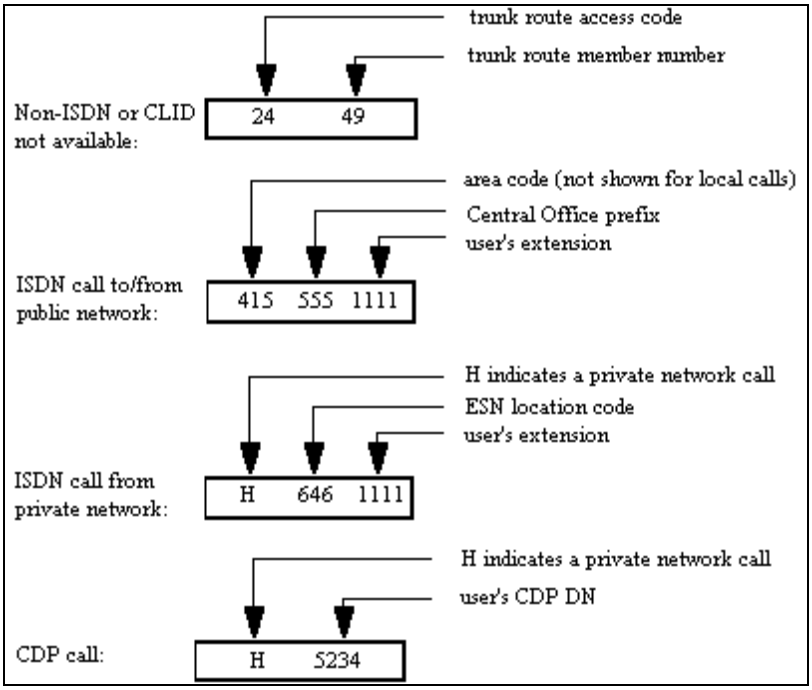


Figure 4 Digit Display Format for Calling Line Identification

Meridian 1 Option 11 (NTP 553-3011-310)

Calling Line Identification (CLID) functionality on M1 Option 11 is similar to CLID on M1 Options 21-81. However, the hardware and software packaging for ISDN PRI and CLID on the M1 Option 11 are different.

Meridian 1 Option 11 Switch Configuration

The Meridian 1 Option 11 CLID display feature is supported for the following switch configurations:

- Meridian 1/SL-1 to Meridian 1/SL-1
- Meridian 1/SL-1 to DMS-100
- Meridian 1/SL-1 to SL-100

Meridian 1 Option 11 Software Requirements

Calling Line Identification on Meridian 1 Option 11 requires the following software options on its software cartridge:

- ISDN (PRI or ISL)option 145, 146 and/or 147
- PRI option 146 or ISL option 147
- Digit Display option 19
- Three software cartridges are available that provide these options:
- NTAK57BE Enhanced Business Software
- NTAK57CE Private Networking Software
- NTAK57DE Advanced Applications Software

Meridian 1 Option 11 Hardware Requirements

On M1 Option 11 systems, ISDN is provided by the NTAK09 1.6 Mb DTI/PRI card and its associated clock controller (NTAK20) and D-channel handler (NTAK93) daughter boards.

The NTAK09 Card provides T-1 ISDN PRI connectivity to the local telephone company. The Telephone company then delivers CLID over the PRI trunk facilities (using the D-Channel) so the Meridian 1 Option 11 can deliver the calling number to the telephone display.

Meridian 1 Option 11 Operating Parameters

The following are CLID operating parameters for Meridian 1 Options 11-21:

- If the CLID display is unavailable because the call was not routed on ISDN routes for the entire call, the trunk route access code and trunk route member number are displayed.
- For public networks, CLID displays the standard North American Numbering Plan 7 or 10-digit number, depending on the number dialed.
- For a private network over ESN, the CLID displays an H followed by an HLOC (Home Location Code) + xxxx, where xxxx = four-digit DN.
- For a private network over CDP, the CLID displays the LSC (Local Steering Code) followed by either:
    - the extension's trailing digits (forming the CDP DN) when CDP is equipped, or
    - the calling telephone's extension. Refer to Figure 4, “Digit Display Format for Calling Line Identification,” for digit display formats for CLID.

ANI

Certain applications involve automatic message accounting. The telephone system must identify the parties involved in a call and automatically transmit this information. Automatic Number Identification (ANI) provides this capability. A system with ANI sends information about stations involved in an outgoing toll call via Multifrequency (MF) signaling over Central Automatic Message Accounting (CAMA) trunks to toll-switching CAMA, to Traffic Operator Position System (TOPS), or to Traffic Service Position System (TSPS) offices. The signaling method used to send this information to the Central Office can be E&M, DX, or loop signaling.

For example, when a Meridian Modular set places a toll call, the M1 PBX sends ANI information to the telephone company for billing purposes. Instead of capturing CDR records on the PBX and processing their own billing, customers allow the telephone company to do their billing based on the ANI information that is sent.

Note: The NORTEL ANI software package does not allow the PBX to *receive* a calling number. The NORTEL ANI software package is used only to *send* information.

ANI signaling

E&M, DX, or loop signaling can send ANI information to the central office. ANI supports three basic signaling methods: Bell, NT400, and NT500.

ANI Trunk Requirements

The type of signaling determines the analog trunk circuit pack required in the M1 PBX.

- For E&M or DX signaling:
  Use the QPC71 E&M/DX/Paging trunk circuit pack, which does not have to be modified for ANI. Refer to QPC71 E&M/DX Signaling and Paging Trunk Card description (NTP 553-2001-187) for a complete description of this trunk circuit pack.
- For loop signaling:
  Use the QPC72 loop signaling trunk circuit pack is used. Connections are the same as those described in QPC449 Loop Signaling Trunk Cards description (NTP 553-2201-186).

These two types of trunks provide compatibility with the signaling and supervision requirements of CAMA trunks that need to be configured on the M1 PBX to support ANI. They also provide a path for the eventual analog transmission of the MF tones and for speech transmission.

ANI on Digital Trunk Interface (DTI)

Introduced in X11 release 14.43, the Automatic Number Identification (ANI) on Digital Trunk Interface (DTI) extends the ANI feature to digital CO (DCO) and Digital Toll Office (DTO) trunks. In addition, the ANI capability is extended to Primary Rate Access (PRA) trunk routes through the PRI.

For further information, refer to Automatic Number Identification description NTP(553-2611-200).

Operating Parameters for ANI on DT1

The QPC189F is the minimum vintage multifrequency (MF) sender circuit board required to implement this feature.

DTI interfaces externally with a digital trunk carrier facility at the DS-1 rate. MF signals pass across this interface in a digitally encoded format.

Supervisory signaling through DTI is accomplished by A&B bit signaling. A&B bit signaling can emulate E&M or loop signaling.

Address (called number) signaling through DTI can be DP or MF. Immediate start or wink start may be used.

Calling number information signaling is done using the MF signaling method.

This enhancement supports the three basic signaling methods for ANI. These are Bell, NT400, and NT500.

Northern Telecom offers essentially four options that people typically believe are needed to receive calling number information to a M1 Option 11-81 telephone set. However, only two options (CLID and IANI) exist.

- Automatic Number Identification (ANI), package 12, has no feature package dependencies and is available with X11 release 1 or higher. This package sends ANI (calling number and called number) out of the switch over analog CAMA trunks for billing purposes. *The switch does not receive ANI for delivery to a set.* Therefore, an application cannot use this package to screen pop on a calling number.
- Automatic Number Identification on DTI. This enhancement is included in the ANI software package. Automatic Number Identification (ANI), package 12, but requires X11 release 14.43 and later. This package sends ANI out of the switch over digital CAMA trunks for billing purposes, but *the switch does not receive ANI for delivery to a set.* Therefore, an application cannot use this package to screen pop on a calling number.

IANI

The In-Band ANI (IANI) feature (available on the M1 Option 11-81 only) provides the ability to display a ten-digit calling party number during setup (signaling) over a non-Integrated Services Digital Network (ISDN) T1 trunk. The Automatic Number Identification (ANI) digits are displayed when they auto-terminate to an Automatic Call Distribution (ACD) Directory Number (DN) agent telephone with digit display. The IANI feature requires that ten (10) digits be received over the T1 trunks. IANI sends these digits to three places: the CDR records, the host, and the agent telephone. Dialed Number Identification Service (DNIS) can also be enabled on the trunks allowing 3-7 digits representing the called number to be delivered to the set. The TAPI Service Provider passes IANI and/or DNIS digits to the TAPI application.

When a call is received over a digital (T-1) Direct Inward Dialing (DID) or tie trunk, the software examines LD 16 prompts AUTO=YES and IANI=YES to determine whether the call is on an In-Band ANI (IANI) trunk group. If it is, the ten Automatic Member Identification (ANI) digits that represent the calling number are collected, and the call auto-terminates at the Automatic Call Distribution (ACD) Directory Number (DN) specified for that trunk in LD 14 (ATDN prompt), provided that the ACD telephone has digit display and Standard Delayed Display (DDS) Class of Service. The call, sent by Dual Tone Multifrequency (DTMF) signaling prior to call termination, is not received until all the digits are received by the software.

If an auto-terminating ACD DN is not configured for the trunk, the call intercepts to the attendant, and the ANI number is displayed on the attendant console. If the call is extended to an ACD DN, the IANI digits are displayed after it is extended.

Northern Telecom offers essentially four options that people typically believe are needed to receive calling number information to a M1 Option 11-81 telephone set. However, only two options (CLID and IANI) exist.

- In-Band ANI (IANI), X11 release 15 or later. The In-Band ANI (IANI) feature is not separately packaged and it has no association with the ANI or ANI on DTI packages. Instead, this package provides display capability of a 10-digit calling party number during setup (signaling) over a non-ISDN T1 trunk. The ANI digits are displayed when they auto-terminate to an ACD DN agent telephone with digit display. The TAPI SP passes the ten (10) IANI digit on to the TAPI application that can use this information to screen pop on a calling number.

IANI Package Requirements

IANI requires the following packages:

- Basic ACD (BACD), package 40
- ISDN Signaling (ISDN), package 145
- Primary Rate Access (PRA), package 146
- Inter-Exchange Carrier (IEC), package 149
- Dialed Number Identification Service (DNIS), package 98

If Application Module Link (AML) is required, then the Command Status Link (CSL), package 77, and the Integrated Messaging System (IMS), package 35, must be included. For CDR records, Call Detail Recording (CDR), package 4, is required. A Dual Tone Multi-frequency (DTMF) receiver is required to interpret the DTMF tones with an IANI number.

IANI Operating Parameters

The following are IANI operating parameters:

- IANI operates on T1, Direct Inward Dialing (DID), and tie trunks only.
- IANI cannot be configured on the same trunk with Electronic Switched Network (ESN), Integrated Services Digital Network (ISDN), or Dialed Number Identification Service (DNIS).
- The auto-terminating Automatic Call Distribution (ACD) Directory Number (DN) is configured in LD14. Any ACD Agent specified to answer IANI calls also receives standard ACD calls. When a standard ACD call is received on an non-ISDN or non-ANI trunk, no ANI numbers are displayed.
- If an IANI call terminates on a non-ACD DN, no ANI digits appear on the telephone display. Likewise, no PCI messages are sent across the Application Module Link (AML).
- Auxiliary Processor Link (APL) is not supported.
- Should the system initialize while an agent is active on an IANI call, there will be no impact on the call. However, if any call modification (such as Call Transfer or Conference) takes place, the ANI number is lost.

IANI Feature interactions

The IANI feature interacts heavily with ACD. For a complete description of the ACD features involved, see Automatic Call Distribution basic features' description (NTP 553-2671-100).

DNIS

The ACD Dialed Number Identification Service (DNIS) exhibits the last three or four digits of the dialed DN received from auto-terminated DID and Tie trunks on the telephone display for ACD agents. The maximum number of characters allowed is 27, including spaces. Meridian 1 software release 20 offers a flexible DINS length package that allows up to seven (7) digits (representing the called number) to be shown on the phone set.

Note: X11 release 17 and later supports DNIS on non-ACD telephones. X11 release 16 and earlier provides DNIS on ACD telephones only.

In telemarketing environments, Dialed Number Identification Services (DNIS) can reduce the time needed to serve a call. For example, the dialing plan can be configured so the DNIS digits can represent product lines or services. The ACD agent can then answer incoming calls with the correct response.

DNIS is frequently used in conjunction with the Incoming Digit Conversion (IDC) feature to allow DNIS digits to be delivered to sets other than to an auto terminated ACD DN.

With DNIS enabled, the phone's display provides the information shown in Figure 5, where:

ACOD = trunk group access code

MEM = trunk member number

DNIS = pulsed-in DNIS numbers

Figure 5 Agent's Display Information

Routing by DNIS number

Routing by DNIS number enhances call distribution within an ACD system. This X11 release 12 enhancement allows calls to be routed to a specific ACD DN, based on the DNIS number, instead of auto-terminating as described in the DNIS description above. This feature is commonly used in call centers.

X11 release 17 provides for Routing by DNIS on Tie trunks.

Name Display for DNIS

This X11 release 17 enhancement lets you assign a name to each DNIS number, and displays both the DNIS number and name for IDC DNIS calls terminating on both ACD and non-ACD telephones. The maximum number of characters allowed is 27, including spaces.

DNIS Switch Configuration

Switch programming information from TRG. Enable DIS by responding “Yes” to the *DNIS* prompt in LD 16. It is also necessary to respond “Yes” to the *Auto* prompt or have the *IDC* prompt equal “Yes.”

DNIS Hardware Requirements

- **Analog**
  or
- **Digital DID**
  or
- **Tie Trunks**

DNIS Software Requirements

The Meridian 1 PBX must be equipped with X11 release 17 and later to support DNIS on non-ACD telephones and X11 release 10-16 provides DNIS on ACD telephones only. DNIS requires DNIS (package 98), ACD advanced features (package 41), Digit Display (package 19), ACDA (package 45), APL (package 109)*, and IDC (package 113)*

* The APL package is required for DP link.

* The IDC package is required for routing by DNIS

Refer to ACD Feature Description NTP 553-2671-110 or X11 features and services NTP 553-3001-305 for additional information about DNIS.

DNIS Operating Parameters

When a call is received from a DID or Tie trunk, a verification is performed to make sure it belongs to a DNIS trunk group. If it does, the LD 16 DNIS equals “Yes” and the pulsed-in digits are collected and stored. When the proper number of digits are received (3-4 digits with X11 Release 19 or lower or up to 7 digits with X11 Release 20 or higher), the call is auto-terminated at the ACD DN specified for that trunk. The pulsed-in DNIS digits are shown on the agent's display. If an ACD DN is not specified for a trunk (CD 14-ATDN = ACD DN), a DNIS call defaults to the attendant, the DNIS number is not displayed, and an error message is printed at the maintenance terminal. The DNIS number is not displayed on the Attendant Console, but is displayed on the agent's display when the call is extended.

Nortel’s TAPI SP passes all DNIS digits to the TAPI application if the TAPI SP is configured properly and DNIS is enabled during telephone setup.

Final Implementation Step

The final implementation planning step requires that you gather information from the M1 telephone system administrator and pass it on to the person who will be installing and configuring the TAPI SP. This information includes the following:

- Will the DNIS be delivered to set? Yes___ No___
- Is MQA enabled? Yes___ No___
- If the user's set is an ACD set, what is the position ID and ACD DN on the set? _____
- What are the feature key assignments? (Provide printout of TNB)
- Provide printout of Reason Codes from LD 95
- Provide printout of Agent ID Range LD 23
- Will the ACD Agent Sets be acquired by Symposium Call Center Server? Yes___ No___
  If Yes, the TAPI SP configuration must match the SCCS Display Configuration.
- Will Nortel's Communicator card be used as an interface device? Yes___ No___
  If Yes and you also want support for desktop video conferencing FAX and Modem capability, you may need two ports/TNs on the switch (refer to Nortel's Communicator documentation for additional information).

Chapter 3 DMS Implementation

This chapter provides requirements for Telephone, Telephony (switch), Connectivity, Hardware and Software for DMS implementation.

Telephone Requirements

The Nortel Symposium Desktop TAPI Service Provider 1.6 (Nortel's TAPI SP 1.6) supports the M2006, M2008, M2216 ACD sets or the M5009, M5209, M5112, M5212 and M5312 Meridian Business Sets (MBS) equipped with a VISIT Interface Unit that serves as an interface between the MBS set and the PC where the TAPI application resides. When the switch delivers the calling/called number to the set, the VISIT Interface Unit picks up the information and passes it onto the PC's COMM 1, 2, 3, or 4 port to be handled by the TAPI application.

Telephony (Switch) Requirements

The hardware and software packages needed to deliver the calling/called number to the set is dependent upon whether the calls originated from within the switch or outside the switch. Meridian Business Sets (MBS) display the calling/called number if the calling party's phone resides on the same telephone system or in the same Centrex group and is equipped with the packages shown in Table 1.

Table 1 Packages for MBS Display

Package	Description	Minimum BCS Release
NTX108AA	Business Set Display Features	BCS15
	- Display Called Number F1838	BCS15
	- Display Calling Number F1839	BCS15
NTX946AB	Calling Name Display (Optional)	BCS26
	- Calling Name Display G0011	BCS29 See Note 1

Note 1. This feature is available only for the M5209 and M5312 Meridian Business Sets with Display. This feature is provided for calls within and between customer groups on the same MSL-100 or DMS-100 switch.

Connectivity Devices

The Connectivity Device for DMS implementation:

- VISIT Interface Unit

Hardware and Software Requirements

Calls that originate from outside the telephone system do not automatically display the calling/called number on the set. Therefore, to receive a calling/called number from outside the switch and deliver the number to the set's display, the above packages are need plus additional hardware and software packages (described below) are needed on the MSL-100 or DMS-100 switch.

In order to deliver the Calling Party's number to the Meridian Business Sets mentioned above, Common Channel Signaling No. 7 (CCS7) or ISDN Primary Rate Interface (PRI) connectivity is required. After the CCS7 or ISDN PRI Connectivity packages with CLID are provisioned and configured, CLID can be delivered to the Meridian Business Set. However, additional packages may also be needed if the telephone is an ACD set or you want to screen pop on the Called number.

Packages to Support CCS7 Connectivity

Table 2 lists the feature packages required to support applications using CCS7 connectivity in an ACD or Non-ACD environment.

Table 2 packages needed to support CCS7 connectivity

Package	Description	Minimum BCS Release
NTX167AB	CCS7 Trunk Signaling	BCS30
NTX550AA	CCS7 Transaction Service Support	BCS34
One of the following: NTX041AB **or** NTXR72AA	 MTP/SCCP Associated and Non-Associated Signaling MTP/SCCP on LPP Based Platform	 BCS30 BCS35

Packages to Support ISDN PRI Connectivity

Table 3 lists the feature packages required to support applications using ISDN Primary Rate Interface (PRI) connectivity in an ACD or Non-ACD environment.

Table 3 Packages needed to support ISDN PRI connectivity

Package	Description	Minimum BCS Release
One of the following:		
NTXD34AD **Or**	ISDN Primary Rate Interface (PRI) Base	
NTX790AC	ISDN Primary Rate Interface Base - Primary Rate Interface Base AC0270 (Delivers Calling Number to the set, for example, to the CLID)	BCS26 This option is needed to deliver Calling Line Identification (CLID) to a Meridian Business Set.

Packages to Support Non-ACD Agents

The feature packages listed in Table 4 are required to support applications on Meridian Business sets that are not configured as ACD Agents.

Table 4 Requirements for non-ACD Agents

Package	Description and Options	Minimum BCS Release	
NTX106AA	Business Set Features		
	- Six-Port Conference F1827	BCS14	See *Note 1*
	- Three-way Calling/Call Transfer	BCS14	See *Note 2*
NTXE40AA	Meridian Business Set Inspect Key	BCS 29	See *Note 3*
	- Business Set Inspect Key AG1403	BCS29	

Note 1: Require that this option be provisioned and configured on the set to support 6-party conference calls.

Note 2: Require that this option be provisioned and configured on the set to support unsupervised (blind) transfers, supervised (consulting) transfers, redirects or 3-party conference calls.

Note 3: This option is required if you want to be able to screen pop on the Calling/Called number for an incoming call appearing on Keys 2 and above and do so before answering the call. When a call is received on a secondary DN for example, Keys 2 and above, the calling number does not automatically appear on the Meridian Business Set display. Feature Package NTXE40AB Automatic Inspect Mode AG1549 is available in BCS 30 and automatically displays the calling/called number of incoming calls to keys 2 and above but is not recommended for ACD Agents.

Packages to Support ACD Agents

The feature packages listed in Table 5 are required to support the TAPI applications on Meridian Business sets configured as ACD Agents.

Table 5 Requirements for ACD Agents

Package	Description and Options	Minimum BCS Release	
NTX415AA	Automatic Call Distribution - Basic	BCS???	
NTX407AA Or	ACD Call Processing Control	BCS???	
NTX407AB	ACD Call Processing Control	BCS???	
	- In Calls Key F3923	BCS23	
	- Not ready Key F3922	BCS23	
NTX106AA	Business Set Features		
	- Make Set Busy F1828	BCS14	
	- Six-Port Conference F1827	BCS14	See Note 2
	- Three-way Calling/Call Transfer	BCS14	See Note 3
	- DMS-100 Support for M5212 AG2302	BCS33	
NTX416AI	Automatic Call Distribution - Enhanced		
	- Called Name/Number Display G0089	BCS27	See Note 1
	- Call Forcing F3926 (Optional)	BCS23	
NTXE40AA	Meridian Business Set Inspect Key	BCS 29	See Note 4
	- Business Set Inspect Key AG1403	BCS29	

Note 1: Required for TAPI application sets wanting to screen pop on the Called Number. MSL-100 or DMS-100 switches do not have an option called DNIS. This option is similar to the DNIS Option on Meridian 1.

For example, suppose one ACD Group is handling calls for 5 different departments for example, Service, Support, Finance, Billing and Order Processing. Five different “800” numbers are published; one to reach each service but only one ACD group (consisting of 5 agents) is receiving the calls before transferring them to the appropriate party. When a person dials any one of the published “800” numbers, the telephone company passes the last 4-7 digits of the dialed number to the MSL-100 or DMS-100 over CCS7 or ISDN PRI trunks and

presents these 4 digits to an ACD Group which in turn passes the 4 digits on to the display on the ACD Agents set. The agent knows which service the caller is trying to reach and can customize the answering of the call.

The Automatic Call Distribution (ACD) Called Name/Called Number Display feature displays the name and number of the called party on the bottom line of an agent's MBS set. A new option, ACDDISP, is added to the Table ACDGRP to assign the ACD Name/Number Display feature on an ACD Group basis. The Display digit field, DISPDIGS, in Table ACDGRP is used to specify the number of the ACD-DN digits to be displayed. The ACD-DN Name is datafilled in Table DNATTRS.

The feature packages listed in Table 6 are necessary for this feature to operate.

Table 6 Packages necessary for feature to operate

Package	Description
NTX000AA	Bilge
NTX001AA	Common Basic
NTX100AA	Integrated Business Networks - Basic (IBN)
NTX102AA	IBN Station Message Detailed Recording
NTX106AA	Business Set Features
NTX415AA	ACD Basic
NTX901AA	Local Features I
NTX407AA	ACD Call Processing Control
-or-	**-or-**
NTX407AB	Call Processing Control

The maximum length of the ACD-DN in Table DNATTRS is 15 characters. The maximum length of the ACD-DN is seven. If both Called name and number do not fit on the display, then only the called name will be displayed. If the called name is not datafilled in Table DNATTRS, then only the called number will be displayed.

Note 2: Requires that this option be provisioned and configured on the set to support 6-party conference calls.

Note 3: Require that this option be provisioned and configured on the set to support unsupervised (blind) transfers, supervised (consulting) transfers, redirects or 3-party conference calls.

Note 4: The Business Set Inspect Key (option AG1403) of feature package NTXE40AB (Meridian Business Set Inspect) is available in BCS 29 is required on all sets to display the calling/called number of incoming calls to keys 2 and above before the call the answered. When a call is received on a secondary DN (keys 2 and above), the calling number does not automatically appear on the Meridian Business Set display. Therefor, the TAPI SP automatically invokes the depression of the Inspect key to display the Numbers of the Calling party and presents this information to the TAPI Application. The Automatic Inspect Mode (option AG1549) of feature package NTXE40AB (Meridian Business Set Inspect) is available in BCS 30 and automatically displays the calling/called number of incoming calls to keys 2 and above, but is not recommended for ACD Agents.

Appendix A Additional User Information

This Appendix provides additional user information. This information includes how to receive technical support, summary of the online documents, and information on using the Adobe Acrobat Reader to view the online documentation. To view the online documents, the Adobe Acrobat Reader must be installed.

Technical Support for the Nortel Symposium Desktop TAPI Service Provider 1.6

For additional information or Help call (800) NT-4CTI-0. For information about other Northern Telecom products, call (800) 4-Nortel (466-7835). Outside the United States and Canada, contact your Nortel Support or Sales representative.

To resolve a Nortel's Desktop TAPI SP problem properly, Nortel field support personnel may require the following information:

1. A description of the problem, sufficiently detailed to help Nortel reproduce the problem. For example, if the problem involves screen pops, the description should include not only what appears on the PC monitor (TAPI application), but also what appears on the phone's display, with as much accuracy as possible—including numbers, dashes, and names that appear on the top and bottom lines of the display.
2. A printout of the nttapisp.ini file.
3. Printouts of certain switch datafill. On Meridian 1, use LD 20 to print the TNB of the set, and on DMS-100 or MSL-100, print the QLEN of the set. Ask your switch administrator for these. The "Nortel's Desktop TAPI SP System Requirements" section in this chapter also provides some examples.
4. The switch software release number. For the Meridian 1, indicate the X11 Rel. 19, 20, and so forth. For the DMS-100 or MSL-100, indicate BCS 34, 35, and so forth.
5. Run the Logger troubleshooting tool to create and save a log file of the problem.

Overview of the Nortel Symposium Desktop TAPI SP 1.6 Online Documentation

The User documents for Nortel's Desktop TAPI SP are provided electronically as online documents. Contact your Nortel Representative for additional information on obtaining the online documents. The online documents are described in the following table:

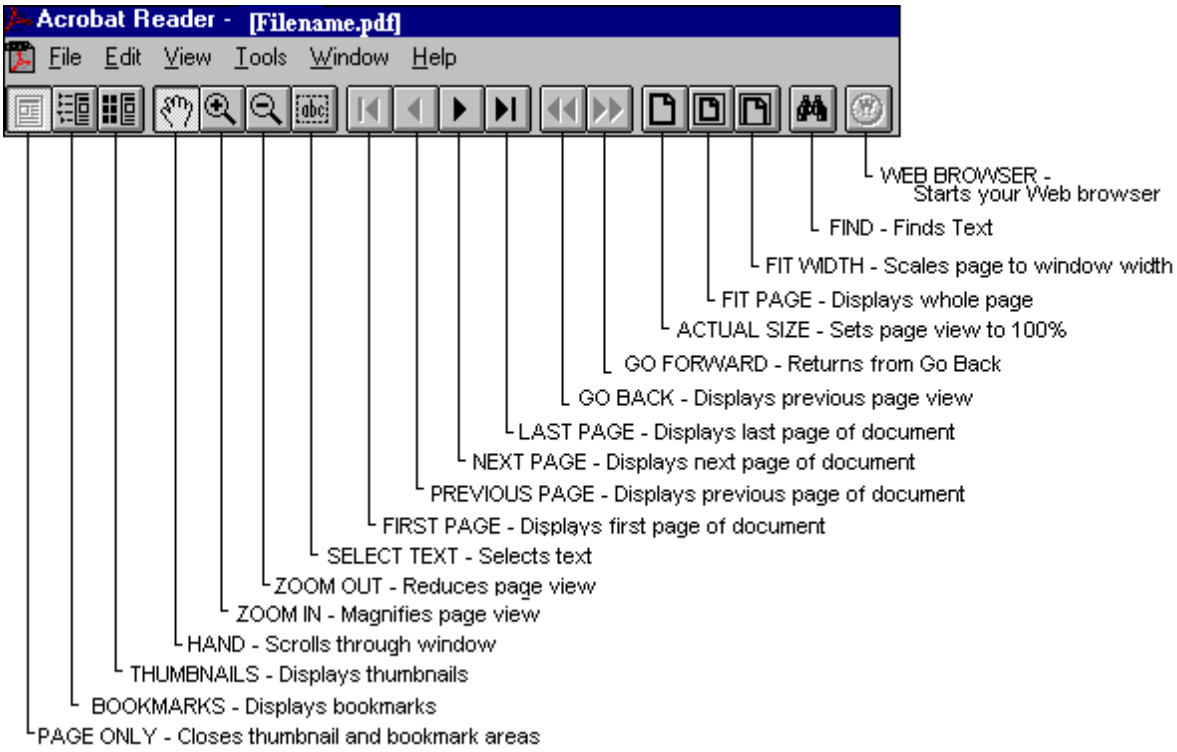
Document Name	File Name	Description
Nortel Symposium Desktop TAPI Service Provider 1.6 User's Guide	Usrguide.pdf	This user's guide provides information on installing, configuring, and using *Nortel's TAPI SP 1.6*.
Nortel Symposium Desktop TAPI Service Provider 1.6 Programmer's Guide	Progvol1.pdf	This document contains information that is helpful to developers who are writing applications that may use *Nortel's TAPI SP 1.6*.
Nortel Symposium Desktop TAPI Service Provider 1.6 Planning Guide	implem.pdf	This document contains the requirements for implementing Windows TAPI compliant applications.

The Adobe Acrobat Reader must be installed to access the online documentation. After installing the Adobe Acrobat Reader, double-clicking on the .PDF file opens the online document in the *Acrobat Reader* window.

Overview of the Adobe Acrobat Reader

The Acrobat Reader Window

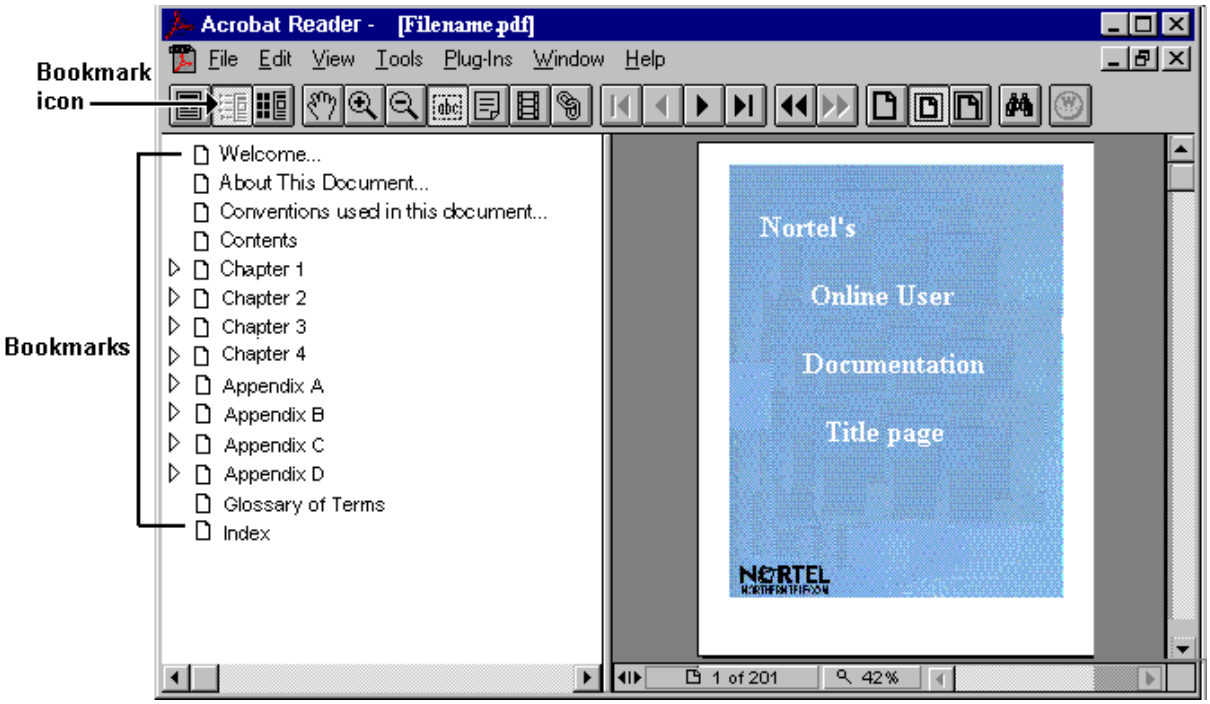
The *Acrobat Reader* window contains menus, tools, and buttons. The Menu bar of the *Acrobat Reader* window displays the **Help** menu. The **Help** menu contains important information on how to view and print the document. The Toolbar on the *Acrobat Reader* window provides tools for working with the documents. Select a tool by clicking the icon.


Acrobat Reader - [Filename.pdf]
File Edit View Tools Window Help
WEB BROWSER - Starts your Web browser
FIND - Finds Text
FIT WIDTH - Scales page to window width
FIT PAGE - Displays whole page
ACTUAL SIZE - Sets page view to 100%
GO FORWARD - Returns from Go Back
GO BACK - Displays previous page view
LAST PAGE - Displays last page of document
NEXT PAGE - Displays next page of document
PREVIOUS PAGE - Displays previous page of document
FIRST PAGE - Displays first page of document
SELECT TEXT - Selects text
ZOOM OUT - Reduces page view
ZOOM IN - Magnifies page view
HAND - Scrolls through window
THUMBNAILS - Displays thumbnails
BOOKMARKS - Displays bookmarks
PAGE ONLY - Closes thumbnail and bookmark areas

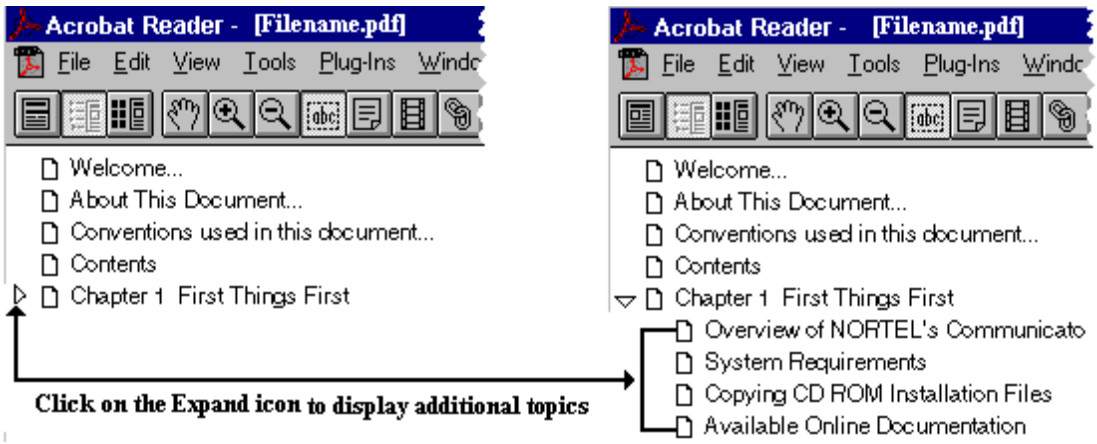
Using Bookmarks on the Acrobat Reader Window

The online documents contain bookmarks to assist you in finding information. Selecting the Bookmark button provides an automated table of contents.

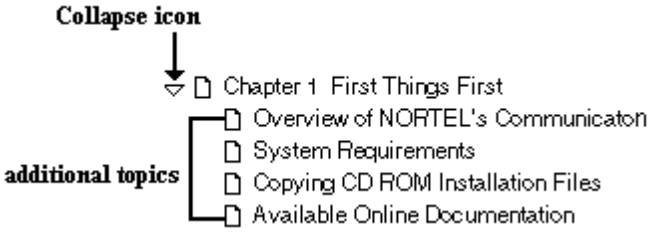
The Bookmarks are displayed on the left of the window.



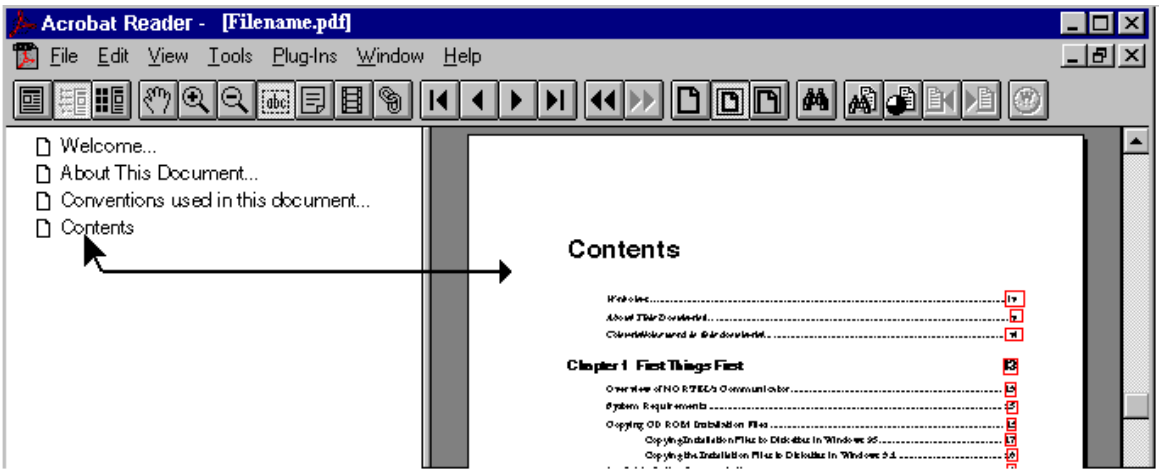
Clicking on the **Expand** icon ▷ located to the left of the bookmark displays additional topics in a tree-view.



When the additional topics are displayed, the **Expand** icon changes to the **Collapse** icon.

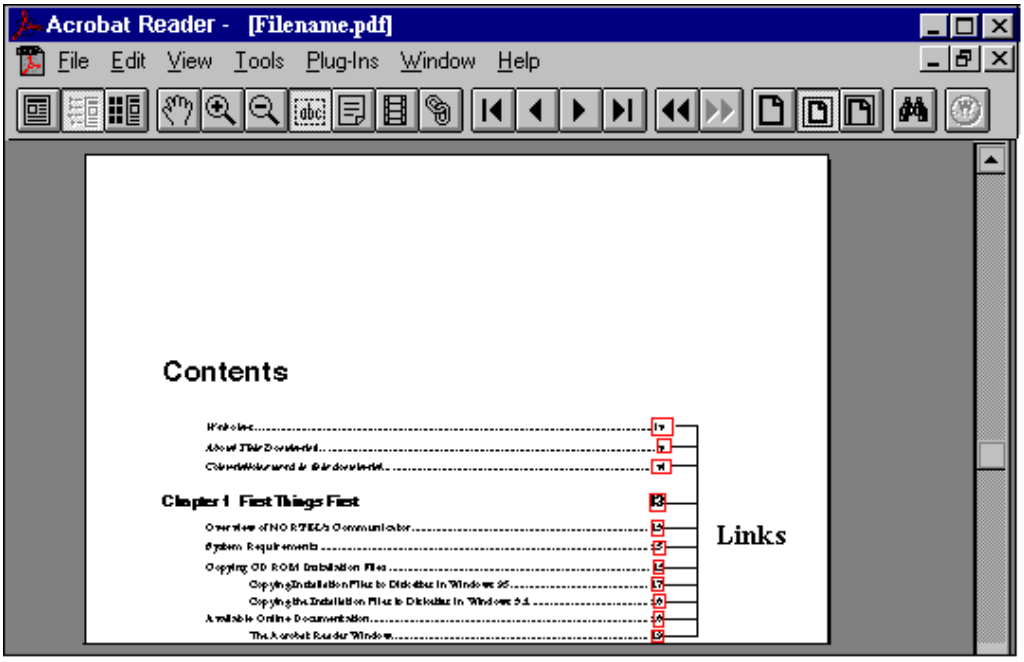


Clicking on the **Collapse** icon ▽ removes the additional topics.
Clicking on a Bookmark takes you directly to the page containing the information.



Using Links on the Adobe Acrobat Window

The Table of Contents, Index, and certain words or phrases provide direct links to the page associated with the entries. Links are **red** boxes that enclose a page number or word. Clicking on the red box displays the page that contains the information.



In addition, certain pages reference additional information. When these references are enclosed in a **red** box, clicking in the box displays the referenced page or document.

Clicking on the **Back** button displays the previous page.

Appendix B Supported Features

This Appendix identifies the features that the Nortel Symposium Desktop TAPI Service Provider supports.

Features Supported on the Meridian 1/SL-1

Features	Nortel's TAPI SP 1.0	Nortel's TAPI SP 1.6
Make Call	Yes	Yes
Answer Call	Yes	Yes
Hold and Un-hold call	Yes	Yes
Blind Transfer	Yes	Yes
Supervised Transfer	Yes	Yes
Conference Call (3 party & 6 party)	Yes	Yes
Consult Call	Yes	Yes
Ring Again (Activate & Cancel)	Yes	Yes
Call Pickup	Yes	Yes
Call Park (Park & Retrieve Park)	Yes	Yes
Call Forcing *	Yes	Yes

* Meridian 1 PBX only

Features Supported on the MSL-100/DMS-100

Features	Nortel's TAPI SP 1.0	Nortel's TAPI SP 1.6
Make Call	Yes	Yes
Answer Call	Yes	Yes
Hold and Un-hold call	Yes	Yes
Blind Transfer	Yes	Yes
Supervised Transfer	Yes	Yes
Conference Call (6 party)	Yes	Yes
Consult Call	Yes	Yes
Ring Again (Activate & Cancel)	Yes	Yes
Call Pickup	Yes	Yes
Call Park (Park & Retrieve Park)	Yes	Yes

Glossary of Terms

ACD

Automatic Call Distribution. This is a telephone system feature that automatically routes calls to agents.

ANI

Automatic Number Identification. This is another name for call ID (CLID). ANI is typically a 10-digit number that is delivered by the network to identify the incoming caller.

CLID

Caller identification. This is another name for ANI.

CTI

Computer Telephony Integration.

DNIS

Dialed Number Identification Service.

DNs

Directory Numbers.

IDC

Incoming Digit Conversion.

MBS

Meridian Business Set.

MCA

Meridian Communications Adapter.

MMT

Meridian Modular Telephone.

MPDA

Meridian Programmable Data Adapter.

Nortel Developer Support Hotline

For additional information or help, call (800) NT-4CTI-0.

SCCS

Symposium Call Center Server

Service Providers

Software files needed to enable TAPI applications to communicate with the physical telephony device.

SP

Service Providers.

TAPI

Telephony Application Programming Interface.

VISIT FastCall

A windows-based Computer Telephony Integration (CTI) program for small call centers that makes handling calls in telephone-intensive environment faster and more reliable.

VIU

VISIT Interface Unit.

Index

A

ACD 39

ACD Agents
Packages to Support 29

Acrobat Reader Window 33
Using Bookmarks 33
Using Links 35

Adobe Acrobat Reader
Overview 33

ANI 11, 21, 39
Digital Trunk Interface 21
Operating Parameters on DT1 22
Signaling 21
Trunk Requirements 21

B

Basic Telephone Configuration Requirements
Meridian 1 16

Bookmarks 34
Acrobat Reader window 33

C

Cables
TAPI SP 14

Call Presentation 11

CCS7 Connectivity
Packages to Support 28

CLID 11, 17, 39

Computer Requirements
Installing the TAPI SP 13

Computer Telephony Integration (CTI) 9

CTI 39, 40

D

DMS
Connectivity Devices 27
Hardware and Software Requirements 28
Telephone Requirements 27
Telephony (Switch) Requirements 27

DMS-100
Features Supported 37

DNIS 12, 24, 39
Hardware Requirements 25
Name Display 24
Operating Parameters 25
Routing 24
Software Requirements 25
Switch Configuration 24

F

Features Supported
Meridian 1/SL-1 37
MSL-100/DMS-100 37

H

Hardware requirements
TAPI SP 13

I

IANI 12, 22
Feature Interactions 23
Operating Parameters 23
Package Requirements 23

Implementation Planning Process 10

Information
NORTEL Developer Support Hotline iv
Northern Telecom products iv
Related documents v

Interface Devices
TAPI SP 13

Introduction to
TAPI 9

ISDN PRI Connectivity
Packages to Support 28

L

Links
Acrobat Reader window 35

M

Meridian 1
Features Supported 37

Meridian 1 Option 11
Hardware Requirements 20
Operating Parameters 20

Software Requirements 20
Switch Configuration 19
Meridian 1 Option 21-81
Hardware Requirements 17
Operating Parameters 19
Software Requirements 17
Switch Configuration 17
Meridian Business Set (MBS) 39
Meridian Communications Adapter (MCA) 39
Meridian Modular Telephone (MMT) 39
Meridian Programmable Data Adapter (MPDA) 40
Meridian TelAdaptor TCM v

N

Non-ACD Agents
Packages to Support 28
NORTEL Developer Support Hotline iv
Nortel Symposium Desktop TAPI Service Provider Release 1.6
Overview 10

O

Online Documentation 32
Overview
Adobe Acrobat Reader 33
Nortel's TAPI SP 1.6 10
TAPI 9

P

Packages
Support ACD Agents 29
Support CCS7 Connectivity 28
Support ISDN PRI Connectivity 28
Support Non-ACD Agents 28
Product Information 9

R

Related documents v
Requirements
ACD Agents 29
ANI Trunk 21
Basic Telephony - Meridian 1 16
CAMA Trunks 21
Computer 13
Computer hardware 13
Computer software 13
Hardware - DMS 28
Hardware - DNIS 25
Hardware - Option 11 20
Hardware - Option 21-81 17
non-ACD Agents 29
Package - IANI 23
Software - DMS 28
Software - DNIS 25
Software - option 21-81 17
Software Option 11 20
Telephone - DMS 27
Telephone- Meridian 1 15
Telephony - DMS 27
Telephony - Meridian 1 15

S

Service Providers 40
Service Providers (SP) 9
Software requirements
TAPI SP 13
Supported Features 37

T

TAPI application relationships 10
Technical support for the Nortel's TAPI SP 1.6 31
Telephone Requirements
DMS 27
Meridian 1 15
Telephony (Switch) Requirements
DMS 27
Meridian 1 15
Telephony Application Programming Interface
Overview 9

V

VISIT Interface Unit (VIU) 40

Nortel Symposium Desktop TAPI Service Provider 1.6

Implementation Planning Guide

Planning Guide for Implementing
Windows TAPI Compliant Applications that use
the Nortel Symposium TAPI Service Provider 1.6

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